

INVENTORY OF MOTH FAUNA (LEPIDOPTERA: HETEROCERA) OF THE NORTHERN WESTERN GHATS, MAHARASHTRA, INDIA

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This paper presents an inventory of 418 species of moths (303 identified to species, 116 identified to genus) from 28 families belonging to 15 superfamilies, which were recorded by light trapping at eight sites in northern Western Ghats, India. Of the species recorded, with reference to their published distribution ranges, 11 species from five families appear to be new records for India, range extensions were noted for 130 species from 16 families, and 25 species from six families are endemic to India. The dominant families were Erebidae, Geometridae, Sphingidae and Crambidae. The highest number of moths were recorded from Malshej Ghat, Sanjay Gandhi National Park and Bheemashankar Wildlife Sanctuary. The highest species diversity was recorded from Sanjay Gandhi National Park. Amboli, Koyna Wildlife Sanctuary and Malshej Ghat showed a number of new records and seem to support interesting and endemic moth fauna. Amboli and Koyna Wildlife Sanctuary need further detailed sampling, as these areas have been largely unexplored for moths. Extensive sampling in Sanjay Gandhi National Park resulted in many range extensions for the northern Western Ghats; this indicates that if sampling is intensified additional records may also be generated at the other sites. It was concluded that the moth diversity of northern Western Ghats is similar to that of north-east India. Further systematic and intensive surveys will yield more data.

Keywords: northern Western Ghats, moths, geographical range, Maharashtra, Amboli, Bheemashankar Wildlife Sanctuary, Koyna, Mahabaleswar, Malshej Ghat, Matheran, Phansad, Sanjay Gandhi National Park

INTRODUCTION

The Western Ghats are a chain of hills stretching 1,440 km from the Tapi river north of Mumbai to the tip of the Indian peninsula at Kanyakumari. The habitat comprises of four tropical and subtropical moist broadleaf forests – the northern Western Ghats moist deciduous forest, northern Western Ghats montane rain forest, southern Western Ghats moist deciduous forest, and southern Western Ghats montane rain forest. The region receives high rainfall, which occurs primarily during the south-west monsoon. The Western Ghats are important catchment areas for nearby cities, towns and villages. The lush green environment of the Western Ghats is suitable for a wide variety of organisms. In addition to endangered plants, a large number of animals species, over 330 vertebrate species and at least 37 butterfly species (Ranjit Daniels 2003), are endemic to the Western Ghats.

The northern Western Ghats (known locally and hereafter referred to as the Sahyadris) begin in southern Gujarat and run south through Maharashtra to Goa. This part of the range is generally drier than the southern part; at lower

elevations it forms the Sahyadris moist deciduous forests. The cooler and wetter Sahyadris montane rain forests occur above 1,000 m elevation. In Maharashtra, there are excellent examples of the rich Sahyadris forests, but this forest is highly fragmented and is being increasingly degraded by human exploitation. The loss and fragmentation of tropical rainforest, which holds a major proportion of the world's biodiversity, remains a crucial global conservation problem (Whitmore 1997; Kapoor 2006). There is a paucity of research on invertebrates even though they make up a significant portion of the animal diversity in tropical rainforests (Klein 1989). Also, being sensitive to environmental change, invertebrates are important indicators to help understand the effects of processes such as habitat fragmentation (Jansen 1997; Miyashita *et al.* 1998).

Ranjit Daniels (2003) records several conservation-oriented studies, mostly on plants and vertebrates, of this biodiversity hotspot. However, there is little information on invertebrates. The present preliminary study aims to make an inventory as a baseline for future studies on the moths of the Sahyadris, to enable informed conservation efforts and

ecological studies of these insects in the Western Ghats. This moth survey is the first of its kind to be undertaken in the Sahyadris.

Abbreviations used in the text and tables

AM = Amboli; BMNH = Natural History Museum, London (ex. British Museum (Natural History)); BNHS = Bombay Natural History Society; BWS = Bhimashankar Wildlife Sanctuary; DD = data deficient; EN = endemic; KWS = Koyna Wildlife Sanctuary; MB = Mahabaleshwar; MG = Malshej Ghat; MN = Matheran; NR = new record for India; PWS = Phansad Wildlife Sanctuary; RE = range extension; SGNP = Sanjay Gandhi National Park; Nil: Nothing to mention.

METHODOLOGY

In 2004-2008, a study on moths was initiated and the northern Western Ghats (Sahyadris) were chosen as the study area for documenting the moth fauna. Eight sites were selected from the southern, central and northern parts of the Sahyadris on the basis of their habitat conditions, and uniqueness of their known biodiversity and bionomic status. The sites are listed in Table 1.

Moths were surveyed primarily by use of light traps, but also by day time field visits. The survey was conducted for a year and included the main moth flight season (May through October). Light traps were infrequently set up in the study areas either once a month/weekly in case of Malshej Ghat and Sanjay Gandhi National Park, wherein the light traps were operated for two consecutive nights and one night, respectively. The remaining locations were visited occasionally during the mothing season and the light traps were operated for two to four consecutive nights. This being a preliminary study the data collected was not systematic and uniform from all locations. This resulted in unequal recording

effort among different sites in the study area. The most intensively surveyed areas were Sanjay Gandhi National Park and Malshej Ghat, where substantial work was carried out. The light traps were operated during new moon nights in areas with minimum illumination for good catch. Altogether, 84 light traps were set up from 2004-2008.

The light trap comprised a 3 x 4 m white cloth stretched between two posts or trees, in front of which was hung a mercury vapour light bulb (Philips, B/73, ML 160 W) (William 1987). This set-up is more suited to tropical conditions than are box or tub style traps, such as the Robinson trap or Skinner trap (Waring 1994). A portable generator (Honda, GK 200, 2.28 KW/3600 rpm) was used for power supply. The survey team camped in resorts with close proximity to forests; the light traps were operated overnight from 19:00 hrs to 05:00 hrs. The light traps were switched off at 05:00 hrs to allow the moths (and other insects) to disperse before sunrise, which usually happened after 05:30 hrs; this was to prevent their predation by birds (Longcore and Rich 2004).

Moths attracted to the light traps were photographed. Where necessary, a maximum of five voucher specimens per species were collected for identification. These specimens were killed in plastic containers with ethyl acetate vapour and pinned (Dickson 1992) the following day. All specimens are currently retained by the first author at the Conservation Education Centre of the Bombay Natural History Society, Mumbai. Besides data collected through light traps, photographic evidences have also been considered when listing the species.

Identification of moths and compilation of distribution ranges were carried out with the assistance of literature sources: Hampson (1892-96), Bell and Scott (1937), Holloway (1983-2005), Arora and Gupta (1979), Barlow and D'Abbrera (1982), Peigler (1989), Robinson *et al.* (1994), Shubhalaxmi and Chaturvedi (1999), Kendrick (2002, 2004),

Table 1: Sites surveyed, their location, habitat

Site name	Latitude (North)	Longitude (East)	Elevation (in metres)	Habitat type
Sanjay Gandhi National Park	19° 18'-19° 21'	72° 53'-72° 58'	486	Semi-moist deciduous forest.
Malshej Ghat	19° 20'	73° 47'	500-900	High hilly region with stunted hill top vegetation and evergreen patches in deep ravines.
Bhimashankar Wildlife Sanctuary	19° 04'	73° 32'	-1,000	Southern tropical semi-evergreen forest.
Matheran	18° 57'-19° 00'	73° 15'-73° 17'	-750	Evergreen forest. Declared an ecosensitive zone.
Phansad Wildlife Sanctuary	18° 21'-18° 24'	72° 55'-72° 58'	100-200	Coastal forest ecosystem.
Mahabaleshwar	17° 55'	73° 55'	-1,350	Evergreen forest. Declared an ecosensitive zone.
Koyna Wildlife Sanctuary	17° 27'	73° 50'	600-1,100	Southern tropical evergreen forests and southern moist mixed deciduous forest.
Amboli	15° 57'	74° 00'	-750	Evergreen forest.

Pittaway and Kitching (2004), Kononenko and Pinratana (2005), Smetacek (2008) and personal communications from I.J. Kitching, based on the BMNH collection. Web-based resources used to aid identification included Herbison-Evans and Crossley (n.d.), Beccaloni *et al.* (n.d.), Beck and Kitching (n.d.), Savelle (1999), Anonymous (2003), Zwier (2004), and Korea Institute of Science and Technology Information (2007). Taxonomic order follows Holloway *et al.* (1983-2000), with Noctuoidea updated to follow Lafontaine and Fibiger (2006), and Lafontaine and Schmidt (2010).

As identification of all moth species was not possible due to lack of literature and genitalia dissection facility, some were identified to genus level. Species identified to genus and superficially similar to a particular species, though identification is unconfirmed, have been referred to in the text as genus c.f. species.

RESULTS

The study recorded 418 moth taxa (303 identified to species and 116 identified to genus level) from 28 moth families belonging to 15 superfamilies. Of these, 11 species from five families are new records for India, of which maximum are from Family Erebidae (n = 4), and from Malshej Ghat (n=4). The study area details are given in Table 1.

There were 130 species from 16 families for which range extensions were recorded. Maximum range extensions were recorded from Family Erebidae (n = 47) and Malshej Ghat (n = 89). Altogether, 25 species from six families recorded were endemic to India. Maximum endemic species were recorded from Family Erebidae (n = 9) and Malshej Ghat (n = 16). Among the moth families, the highest species richness was recorded for Family Erebidae (n = 128), followed by Geometridae (n = 65) and Crambidae (n = 47) (see Table 2). Among the study sites, highest species richness was recorded for Sanjay Gandhi National Park (n = 226 in

Table 2: List of Recorded Moth Families and Species

Families	Number of Species
1. Hepialidae	1
2. Adelidae	1
3. Tineidae	1
4. Oecophoridae	2
5. Gelechiidae	1
6. Gracillariidae	1
7. Lecithoceridae	1
8. Sesiidae	1
9. Cossidae	2
10. Limacodidae	19
11. Zygaenidae	2
12. Tortricidae	1
13. Crambidae	42
14. Pyralidae	6
15. Thyrididae	6
16. Pterophoridae	3
17. Sphingidae	45
18. Bombycidae	3
19. Eupterotidae	4
20. Saturniidae	5
21. Lasiocampidae	5
22. Uraniidae	8
23. Geometridae	65
24. Notodontidae	17
25. Erebidae	128
26. Eutelidae	4
27. Noiidae	9
28. Noctuidae	35
Total	418

26 families) followed by Bheemashankar Wildlife Sanctuary (n = 211 in 16 families) and Malshej Ghat (n = 239 in 15 families).

Details of individual taxa recorded are given in Table 4. Despite unequal sampling we have presented a list of all sites (Table 3). Though incomplete, this provisional list is valuable as it provides baseline data on moths of the northern Western Ghats (Table 3).

Table 3: Summary of Moth Fauna by Site

Locations	Number of Nights when Light Traps were operated	No. of Species (No. of families)	Number of New Records	Number of Endemic Species	Number of Range Extensions
Mahabaleshwar	2	8 (4)	0	1	2
Matheran	2	12 (4)	0	1	1
Phansad WS	4	30 (11)	1	0	5
Amboli	4	83 (10)	3	1	27
Koyna WS	4	126 (14)	4	3	35
Bheemashankar WS	8	211 (16)	1	4	39
Sanjay Gandhi NP	48	226 (26)	1	14	70
Malshej Ghat	12	239 (15)	4	16	89

Table 4: Status and Distribution of Moths Recorded from northern Western Ghats

No.	Taxa	Distribution	Collection Sites	Range Notes
I	HEPIALOIDEA (i) Hepialidae, Subfamily Unassigned 1. <i>Phassus signifer</i> Walker, 1856	India (West Bengal, east to north-west Himalaya), Nepal, Bangladesh, Myanmar, Myanmar, Indonesia, Malaysia	SGNP, MG	RE
	II	INCURVARIOIDEA (ii) Adelidae, Adelinae 2. <i>Adelia</i> sp.	SGNP	DD
III	TINEOIDEA (iii) Tineidae 3. <i>Eciosa</i> sp.	DD	SGNP	DD
	IV	GELECHIOIDEA (iv) Decophoridae 4. <i>Tonica nitiferana</i> (Walker, 1864) Stathmopodinae 5. <i>Stathmopoda</i> sp. (v) Gelechiidae, Dichomeritinae 6. <i>Dichomeris</i> sp. (vi) Gracillariidae 7. <i>Caloptilia</i> sp. (vii) Lecithoceridae 8. <i>Lecithocera</i> sp.	India, Sri Lanka, Vietnam, China DD DD DD DD DD DD	— DD DD DD DD DD
V	SESOIDEA (viii) Sesilidae, Paranthreninae 9. <i>Paranthrene</i> sp.	DD	SGNP	DD
	VI	COSSOIDEA (ix) Cossidae, Cossinae 10. <i>Xybutus persona</i> (Le Guillou, 1841) Zeuzerinae 11. <i>Zeuzera indica</i> Herrich-Schäffer, 1854	India (Himachal Pradesh, Sikkim, West Bengal), Sri Lanka, Indonesia, China, Malaysia, New Guinea India (Sikkim, Himachal Pradesh), Bangladesh, Sri Lanka, Nepal, Myanmar, New Guinea, Australia	RE RE
VII	ZYGAENOIDEA (x) Limacodidae, Limacodinae 12. <i>Aithya nivea</i> Walker, 1862 13. <i>Cania bilinea</i> Walker, 1859 14. <i>Cania pulligonis</i> Swinhoe, 1889 15. <i>Cania</i> sp. 16. <i>Chromoptila apicata</i> Moore, 1879 17. <i>Mirasa rivana</i> Moore, 1858/59 18. <i>Narosa conspersa</i> Walker, 1855 19. <i>Parasa bicolor</i> (Walker, 1855)	India (Sikkim, Jharkhand, southern India), Sri Lanka India (Sikkim, Manipur, southern India), Vietnam, China, Malaysia, Indonesia India (Karnataka) DD India (Sikkim, Manipur) India (Karnataka, Kerala) India (Nagaland, southern India), Sri Lanka, Indonesia, Malaysia (Borneo) India, Myanmar to Malaya, Java, China, Taiwan	MG KWS MG MG MG SGNP, MG MG AM	RE RE EN, RE EN, RE DD EN, RE EN, RE RE RE —

Table 4: Status and Distribution of Moths Recorded from northern Western Ghats (contd.)

No.	Taxa	Distribution	Collection Sites	Range Notes
20.	<i>Parasa dharmia</i> Moore, 1859	India (Sikkim), Myanmar, Indonesia	SGNP	RE
21.	<i>Parasa herbifera</i> (Walker, 1855)	India (Himachal Pradesh, Meghalaya, Tamil Nadu), Nepal	SGNP, BWS	RE
22.	<i>Parasa lepida</i> (Cramer, 1799)	Throughout India and Sri Lanka	KWS, SGNP, BWS	-
23.	<i>Parasa pastoralis</i> Butler, 1880	India (Sikkim), Pakistan, Nepal, Bhutan, China, Vietnam, Indonesia	MG	RE
24.	<i>Parasa c.f. dharmia</i>	DD	SGNP	DD
25.	<i>Phlossa</i> sp.	DD	PWS	DD
26.	<i>Phocoderma</i> sp.	DD	KWS, SGNP,	
			BWS, PWS	DD
27.	<i>Scopelodes</i> sp.	DD	MG	DD
28.	<i>Scopelodes venosa</i> Walker, 1855	India (Sikkim, Uttarakhand), Sri Lanka, Bangladesh, Myanmar	SGNP	RE
29.	<i>Thosea grandis</i> Hering, 1931	India (Meghalaya, Sikkim), China, Myanmar, Malaysia	MG, AM	RE
30.	<i>Thosea</i> sp.	DD	MG	DD
(xi)	Zygaenidae, Chaicosiinae		MG	DD
31.	<i>Eterusia aedea</i> (Clerck, 1759)	India (Sikkim, Assam, Meghalaya, Nagaland), China, Nepal, Bangladesh, Sri Lanka, Thailand, Japan	SGNP, MG, AM	RE
32.	<i>Artona</i> sp.	DD	SGNP	DD
VIII	TORTRICOIDEA:			
	(xii) Tortricidae, Tortricinae			
33.	<i>Archips c.f. machlopiis</i>	DD	SGNP	DD
IX	PYRALOIDEA:			
	(xiii) Crambidae			
	Spilomelinae			
34.	<i>Aetholix flavibasalis</i> (Guenée, 1854)	India (Maharashtra, Gujarat, Andaman Is.), Sri Lanka, Myanmar, China, Indonesia, Malaysia (Borneo), Australia, Hawaii Is., Africa	KWS, SGNP, BWS	-
35.	<i>Aetholix</i> sp.	DD	BWS	DD
36.	<i>Agathodes ostentalis</i> (Geyer, 1837)	India (Uttarakhand, Sikkim, Khasi Hills, Nagaland), Sri Lanka, Myanmar, Indonesia	SGNP, MG, BWS,	-
			KWS	
37.	<i>Agrotia scissalis</i> (Walker, 1866)	India (Sikkim, Meghalaya, Nagaland), Sri Lanka, Myanmar, Indonesia	KWS	RE
38.	<i>Arthrosticta hilaralis</i> (Walker, 1859)	India (N.W. and E. Himalayas), Sri Lanka, Myanmar, Indonesia, Malaysia (Borneo), Australia	SGNP	RE
39.	<i>Botyodes asiaticus</i> Guenée, 1854	India, Pakistan (Baluchistan), Sri Lanka, Myanmar, Nepal, China, Indonesia and Malaysia (Borneo), Thailand, Vietnam, Singapore, Philippines, New Guinea, Australia, Africa	SGNP, MG, BWS,	-
			KWS, AM	
40.	<i>Cnaphalocrocis poeyalis</i> (Boisduval, 1833)	India, Sri Lanka, Myanmar, Thailand, China, Japan, Indonesia, Australia, Africa, Mauritius, La Réunion	KWS	-
41.	<i>Conogates punctiferalis</i> (Guenée, 1854)	India, China, Thailand, Australia	KWS	-
42.	<i>Cydallima laticostalis</i> (Guenée, 1854)	India (Andaman Is.), Sri Lanka, China, Myanmar, Thailand	SGNP, MG,	RE
			BWS, KWS	
43.	<i>Daulia atrifralis</i> Walker 1859	India (Tamil Nadu), Bhutan, Myanmar, China, Indonesia, Malaysia (Borneo)	KWS, SGNP, AM	DD
44.	<i>Diaphania indica</i> (Saunders, 1851)	India, Nepal, China, Indo-Australia, Japan, Korea, Saudi Arabia, Central America, Africa, Madagascar	SGNP, BWS, KWS	-
45.	<i>Dichocrocis nilusalis</i> Walker, 1859	India, Sri Lanka, Indonesia, Malaysia (Borneo)	MG, KWS	-

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Table 4: Status and Distribution of Moths Recorded from northern Western Ghats (contd.)

No.	Taxa	Distribution	Collection Sites	Range Notes
46.	<i>Flodes fulvidorsalis</i> Hubner, 1832	India (Sikkim), Sri Lanka, China, Vietnam, Indonesia	MG, AM	RE
47.	<i>Glyphodes bicolor</i> (Swainson, 1821)	Africa, India (Sikkim), Sri Lanka, Nepal, China, Myanmar, Thailand, Vietnam, Philippines, Japan, Australia	KWS	RE
48.	<i>Glyphodes bivittalis</i> Guenée, 1854	India (Uttarakhand, Sikkim, Assam, western and southern India, Andaman Is.), Sri Lanka, Myanmar, China, Indonesia, Malaysia (Borneo), Thailand, Singapore, Philippines, Australia, America	SGNP, MG, KWS	RE
49.	<i>Glyphodes</i> c.t. <i>actorionalis</i>	DD	KWS	RE
50.	<i>Glyphodes caesalis</i> Walker, 1859	India (Sikkim), Sri Lanka, Nepal, Myanmar, Thailand, Vietnam, Malaya, China, Singapore, Indonesia, Philippines	SGNP	RE
51.	<i>Glyphodes stolalis</i> Guenée, 1854	India (Sikkim, Assam), Sri Lanka, Nepal, China, Myanmar, Thailand, Vietnam, Indonesia, Malaysia (Borneo), Philippines, New Guinea, Australia, Papua New Guinea, Fiji	MG, SGNP	RE
52.	<i>Haritoides derogata</i> (Fabricius, 1775)	India (Andaman & Nicobar Is.), Nepal, Malaysia, Singapore, Indonesia (Bali) China, Japan, New Guinea, Australia, Papua New Guinea, Samoa, Fiji, West Africa	SGNP	RE
53.	<i>Hesperogramma</i> c.t. <i>luctuosalis</i>	DD	SGNP, KWS, AM	RE
54.	<i>Lariposema commixta</i> Butler, 1879	India, Sri Lanka, Myanmar, China, W. Malaysia, Australia, Africa	BWS	RE
55.	<i>Lygropia quaternalis</i> Zeller, 1852	India, Pakistan, Sri Lanka, Bangladesh, Japan, China (including Hong Kong), Taiwan, Cambodia, Laos, Myanmar, Thailand, Vietnam, Indonesia, Philippines, Malaysia, Singapore, Korea, Australia, Tasmania, New Guinea, New Caledonia, New Zealand, Malanesia, Micronesia, Polynesia, South and Central America, Africa, Arabia, Madagascar	SGNP	-
56.	<i>Maruca virata</i> (Fabricius, 1787)	DD	SGNP, MG, KWS, AM	-
57.	<i>Nausinore geometralis</i> (Guenée, 1854)	India, Sri Lanka, Nepal, China, Taiwan, Myanmar, Indonesia, Philippines, Australia, Africa	KWS, AM	-
58.	<i>Omiodes analis</i> Snellen, 1880	Africa, China, Taiwan, Indonesia	KWS	-
59.	<i>Omiodes diemenalis</i> (Guenée, 1854)	India (Andaman & Nicobar Is.), Sri Lanka, Thailand, Seychelles, Vietnam, Singapore, Nepal, China, Java, Indonesia, Malaysia (Borneo), Philippines, Fiji, Tonga, Australia, Vanuatu, Tahiti, South America, North Africa	KWS	RE
60.	<i>Pagoda salvialis</i> Walker, 1859	India (Sikkim), Sri Lanka, Myanmar, China, Thailand, Indonesia, Philippines, Japan, New Guinea, Australia	KWS	RE
61.	<i>Parotis marginata</i> (Hempson, 1893)	India (Sikkim, West Bengal, Nicobar Is.), Sri Lanka, Papua New Guinea	KWS, AM	RE
62.	<i>Pleuroptya kopasalis</i> (Walker, 1859)	India, Sri Lanka, China, Indonesia, Malaysia (Borneo), Philippines	KWS	-
63.	<i>Pycnamon</i> c.t. <i>albiflavialis</i>	DD	KWS	DD
64.	<i>Pygospila tyres</i> (Cramer, 1780)	Indonesia and Malaysia (Borneo), Philippines, Japan, New Guinea, Australia, Africa	SGNP, MG, BWS, KWS, AM	RE
65.	<i>Sameodes cancellalis</i> (Zeller, 1852)	India, Sri Lanka, Nepal, Myanmar, Thailand, Indo-china, China, Indonesia, Australia, America	KWS	-
66.	<i>Spoliades recurvialis</i> (Fabricius, 1775)	India, Sri Lanka, Nepal, China, Myanmar, Thailand, Malaysia, Australia, North and South America, Africa, southern Europe	SGNP, MG, KWS, AM	-
67.	<i>Terasilia eglataealis</i> Walker, 1859	India, Nepal, China, Thailand, Malaysia	SGNP, MG, KWS, AM	-
68.	<i>Tyspanodes</i> c.t. <i>linealis</i>	DD	SGNP	DD
69.	<i>Hyalobathra</i> sp.	DD	KWS	-

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Table 4: Status and Distribution of Moths Recorded from northern Western Ghats (contd.)

No.	Taxa	Distribution	Collection Sites	Range Notes
	Crambinae			
70.	<i>Chilo suppressalis</i> (Walker, 1863)	India (Punjab, Assam, Kolkata), Sri Lanka, Chira, Taiwan, Korea, Japan, Malaysia, Hawaii, Spain	SGNP	RE
71.	<i>Glaucocharis</i> sp. 1	DD	BWS	DD
72.	<i>Glaucocharis</i> sp. 2	DD	SGNP	DD
	Acentropinae [= Nymphulinae]			
73.	<i>Eriena</i> c.f. <i>postibalbis</i>	DD	KWS	DD
74.	<i>Paracymoriza vagalis</i> (Walker, 1865)	India (Punjab, Tamil Nadu), Sri Lanka, Nepal, China, Myanmar, Thailand, Indonesia, Malaysia (Borneo)	KWS	RE
75.	<i>Parapopynx diminutalis</i> Snellen, 1880	Europe, Africa, India (Punjab, Maharashtra), Sri Lanka, China, Indonesia, North America	SGNP	-
	(xiv) Pyralidae			
	Pyralinae			
76.	<i>Bostra indicator</i> Walker, 1863	Nepal, China, Japan	KWS	NR
77.	<i>Ocrasa</i> sp.	DD	KWS	-
78.	<i>Tamraccia torridalis</i> (Lederer, 1863)	India (N.W. Himalayas Nagaland, Maharashtra, Gujarat, Karnataka), Sri Lanka, Myanmar, Java, Indonesia, China	KWS	-
79.	<i>Viteessa suradeva</i> Moore, 1860	India (Sikkim, Assam, hills of southern India, Andaman Is.), Sri Lanka, Myanmar, Indonesia, Malaysia (Borneo)	AM	RE
80.	<i>Zitira tacitilis</i> Swinhoe, 1890	India (Sikkim, Tamil Nadu), Myanmar	KWS	RE
	Epipaschiinae			
81.	<i>Salma</i> sp.	DD	SGNP	DD
X	THYRIDOIDEA			
	(xv) Thyrididae, Strigilinae			
82.	<i>Banisia mysusalis</i> (Walker, 1859)	India, Australia, North and South America, Brazil	SGNP	-
83.	<i>Collinsa</i> sp.	DD	SGNP	DD
84.	<i>Strigilina scitaria</i> (Walker, 1862)	India, Sri Lanka, Myanmar, Indonesia, Malaysia (Borneo), Taiwan, Japan, New Guinea, Australia, Papua New Guinea, Fiji	KWS, SGNP, PWS	-
85.	<i>Strigilina</i> sp. 1	DD	BWS	DD
86.	<i>Strigilina</i> sp. 2	DD	BWS	DD
87.	<i>Strigilina</i> sp. 3	DD	PWS	DD
XI	PTEROPHOROIDEA			
	(xvi) Pterophoridae			
88.	<i>Emmetina</i> sp.	DD	SGNP, KWS	DD
89.	<i>Megalorthipida</i> sp.	DD	PWS	DD
90.	<i>Hellinsia</i> sp.	DD	SGNP	DD
XII	BOMBYCOIDEA			
	(xvii) Sphingidae			
	Smerinthinae, Smerinthini			
91.	<i>Marumba spectabilis</i> (Butler, 1875)	India (eastern & western Himalaya northern India, Maharashtra, Uttarakhand, West Bengal, Meghalaya), Nepal, China, Thailand, Laos, Vietnam, Malaysia, Indonesia	SGNP, MG	-

Table 4: Status and Distribution of Moths Recorded from northern Western Ghats (cont'd.)

No.	Taxa	Distribution	Collection Sites	Range Notes
92.	<i>Marumba dyas</i> (Walker, 1856)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Karnataka, Gujarat, Maharashtra, Andaman & Nicobar Islands), Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, S. China, Philippines, Indonesia, Malaysia (Borneo), Taiwan	SGNP, MG, BWS, KWS	-
93.	<i>Marumba poliois</i> Hampson, 1907	India (Maharashtra, southern India)	SGNP, MG, BWS	EN
94.	<i>Marumba indicus</i> (Walker, 1856)	India (Maharashtra, Karnataka), Sri Lanka	KWS	-
95.	<i>Marumba nympha</i> Rothschild & Jordan, 1903	India (Maharashtra, southern India)	MB	EN, RE
96.	<i>Sataspes agalica</i> f. <i>hauxwelli</i>	India, Sri Lanka, Nepal, Thailand, Cambodia, Vietnam, Malaysia, Indonesia, Philippines, China, Taiwan	SGNP	RE
97.	<i>Leucophaea lineata</i> Westwood, 1847	India (Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Mizoram, Maharashtra, Karnataka, Uttarakhand, Madhya Pradesh, Tamil Nadu, Andhra Pradesh, Pondicherry, Andaman & Nicobar Is.), Sri Lanka, Myanmar	SGNP	-
98.	<i>Clanis phalaris</i> (Cramer, 1777)	Pakistan, India (Uttarakhand, Sikkim, West Bengal, Maharashtra), Sri Lanka, Bhutan	SGNP, MG	-
99.	<i>Polyptychus dentatus</i> (Cramer, 1777)	India, Sri Lanka, Myanmar, China, Malaysia, Philippines, Indonesia	SGNP	-
Smerinthinae, Ambulycini				
100.	<i>Ambulypterus panopus</i> (Cramer, 1779)	India (southern India)	AM	-
101.	<i>Ambulyx subsingilis</i> (Jordan, 1923)	India (southern India)	BWS, MG	EN, RE
Sphinginae, Sphingini				
102.	<i>Psilogramma menephron</i> (Cramer, 1780)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Gujarat, Andaman Is.), Sri Lanka, Nepal, China, Myanmar, Thailand, Vietnam, Indonesia, Philippines, Australia	SGNP, MG, BWS	RE
103.	<i>Psilogramma increta</i> (Walker, [1865])	India (Jammu & Kashmir, Uttarakhand, Maharashtra), Sri Lanka, Myanmar, Nepal, China, Thailand, Vietnam, Malaysia, Korea, Taiwan, Japan	SGNP, MG	-
104.	<i>Agnosia orneus</i> (Westwood, 1847)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Madhya Pradesh, Uttar Pradesh, Bihar, Chattisgarh, Rajasthan, Gujarat, Maharashtra, Goa, Tamil Nadu, Karnataka, Andhra Pradesh), Sri Lanka	SGNP, MG, KWS	-
105.	<i>Agnosia microta</i> (Hampson, 1907)	India (Madhya Pradesh, Uttar Pradesh, Bihar, Chattisgarh, Rajasthan, Jharkhand, Gujarat, Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh), Sri Lanka	SGNP, KWS	-
Sphinginae, Acherontini				
106.	<i>Agnus convolvuli</i> (Linnaeus, 1758)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Maharashtra, Gujarat, Andaman Is.), Pakistan, Sri Lanka, Myanmar, China, Malaysia, Indonesia, Mongolia, Siberia, Japan, Africa, Australia, the Pacific and Southern Europe	SGNP, MG, BWS, KWS, MB, MN	-
107.	<i>Acherontia ischesis</i> Fabricius, 1798	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Maharashtra, Gujarat, Goa, Tamil Nadu, Karnataka, Andhra Pradesh, Andaman Is.), Sri Lanka, Pakistan, Nepal, Myanmar, Malaysia, Indonesia, China, Japan, Philippines, Hawaii Is., Russia	SGNP, MG, BWS, KWS, MB, MN	-

INVENTORY OF MOTH FAUNA OF THE NORTHERN WESTERN GHATS

Table 4. Status and Distribution of Moths Recorded from Northern-western Ghats (contd.)

No.	Taxa	Distribution	Collection Sites	Range Notes
108.	<i>Acherontia styx</i> (Westwood, 1848)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Maharashtra, Gujarat, Andaman Is.), Sri Lanka, Pakistan, China, Nepal, Myanmar, Bangladesh, Indonesia, Saudi Arabia, Iraq, Iran	SGNP, MG, BWS, KWS	-
109.	<i>Dobolina inexacta</i> (Walker, 1856)	India (W. & E. Himalaya, Tamil Nadu, Karnataka, Andhra Pradesh), China, Malaysia, Bhutan, Thailand, Vietnam	SGNP, MG, BWS	RE
110.	<i>Meganoton rubescens</i> (Buller, 1876)	India (Sikkim, Andaman Is.), Thailand, Indonesia, Malaysia (Borneo), Philippines, Australia	SGNP, MG, BWS, MN	RE
	Macroglossinae, Doliophonotini			
111.	<i>Cephonodes</i> sp.	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Maharashtra, Goa, Gujarat, Andhra Pradesh, Tamil Nadu, Karnataka), Africa, Sri Lanka, Bhutan, Nepal, East Asia, South-East Asia, Australia	SGNP, PWS	-
	Macroglossinae, Macroglossini,			
	Macroglossina			
112.	<i>Neogurelca hyas</i> (Walker, 1856)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Maharashtra, Madhya Pradesh, Uttar Pradesh, Chattisgarh, Rajasthan, Maharashtra, Goa, Gujarat, Andhra Pradesh, Tamil Nadu, Karnataka), Nepal, Bhutan, Myanmar, Bangladesh, Thailand, Vietnam, Japan, Malaysia, Indonesia (Sumatra, Java), Philippines	SGNP, MG	-
113.	<i>Nephele hespera</i> (Fabricius, 1775)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Madhya Pradesh, Tamil Nadu, Andhra Pradesh, Pondicherry, Karnataka, Gujarat, Maharashtra, Andaman & Nicobar Is.), Sri Lanka, Pakistan, Bhutan, Nepal, China, Thailand, Vietnam, Malaysia, Indonesia	SGNP, MG, MN, BWS, KWS	-
114.	<i>Daphnitis nerii</i> (Linnaeus, 1758)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Maharashtra, Gujarat), Sri Lanka, Pakistan, Bhutan, Myanmar, Thailand, China, Taiwan, Japan, Malaysia, Europe, Yemen, Africa, Mauritius, Saudi Arabia, Afghanistan	SGNP	-
115.	<i>Acosmeryx shen/illi</i> Boisduval, 1875	India (Sikkim, northern India, Maharashtra, southern India), Sri Lanka, Nepal, China, Thailand, Vietnam, Malaysia, Indonesia	SGNP, MG, KWS	-
116.	<i>Acosmeryx pseudonaga</i> Boisduval, 1875	India, Malaysia, Philippines	MG	-
117.	<i>Macroglossum gyrens</i> Walker, 1856	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Madhya Pradesh, Karnataka, Tamil Nadu, Gujarat, Maharashtra), Sri Lanka, Pakistan, Bhutan, Myanmar, Thailand	SGNP, MG	-
118.	<i>Macroglossum particolor</i> Rothschild & Jordan, 1903	India (Maharashtra, southern India), Sri Lanka, Maldive Islands	SGNP	-
119.	<i>Macroglossum bells</i> (Linnaeus, 1758)	Pakistan, India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, West Bengal, Madhya Pradesh, Karnataka, Gujarat, Maharashtra), Sri Lanka, Nepal, China, Bhutan, Thailand, Vietnam, Indonesia, Taiwan, Japan	SGNP	-
120.	<i>Macroglossum conythus</i> Walker, 1856	India (Eastern Himalaya, southern India, Andaman Islands) China	MG	RE
121.	<i>Macroglossum sibirae</i> Walker, 1856	India (Eastern Himalaya, southern India.), Sri Lanka, China, Bangladesh, Myanmar, Thailand, Vietnam, Malaysia, Indonesia, Philippines, Taiwan, Japan	SGNP	-

Table 4: Status and Distribution of Moths Recorded from Northern-western Ghats (cont'd)

No.	Taxa	Distribution	Collection Sites	Range Notes
	Macroglossinae, Macroglossini,			
	Chero campina			
122.	<i>Hippotion rosetta</i> (Swinhoe, 1892)	India (Maharashtra, Goa, Karnataka, Tamil Nadu, Andhra Pradesh, Gujarat, Orissa, Sikkim, West Bengal, Bihar, Uttar Pradesh, Uttarakhand, Himachal Pradesh, Haryana, Assam, Arunachal Pradesh, Meghalaya, Lakshadweep Islands, Andaman & Nicobar Is.), Sri Lanka, Pakistan, Thailand, southern China and Taiwan to southern Japan (Ryukyu Archipelago), Philippines, eastern Indonesia, Papua New Guinea	SGNP, MG	-
123.	<i>Hippotion celerio</i> (Linnaeus, 1758)	India (Western and Eastern Himalaya, southern India) and throughout the world except in the far North, New Zealand	SGNP, MG, BWS	RE
124.	<i>Hippotion raffiesii</i> (Moore, 1858)	India (Eastern Himalaya, southern India), Sri Lanka, China, Myanmar, Indonesia, Malaysia (Borneo), Taiwan	MG, KWS	RE
125.	<i>Pergesa acteus</i> (Cramer, 1779)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, West Bengal, Maharashtra, Karnataka, Andaman Is.), Sri Lanka, Nepal, China, Myanmar, Thailand, China, Taiwan, Malaysia, Singapore, Indonesia, Philippines	SGNP, MG	RE
126.	<i>Hyles livornica</i> (Fabricius, 1775)	India (Western Himalaya and southern India), Pakistan, China, Europe, Africa	SGNP, MG	-
127.	<i>Thereira nessus</i> (Drury, 1773).	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Gujarat, Maharashtra, Goa, Andhra Pradesh, Karnataka, Tamil Nadu, Andaman Is.), Sri Lanka, Nepal, China, Bhutan, Myanmar, Thailand	BWS, KWS	-
128.	<i>Thereira boisduvalii</i> (Bughnion, 1839)	India (eastern Himalaya, Maharashtra, Gujarat, Uttarakhand, Meghalaya, Sikkim), Sri Lanka, China, Thailand, Malaysia, Indonesia, Vietnam, Taiwan, Turkey, Iran	SGNP, MG, BWS	-
129.	<i>Thereira gnoma</i> (Fabricius, 1775)	India (southern India), Sri Lanka	SGNP, MG, BWS, KWS	RE
130.	<i>Thereira clotho</i> (Drury, 1773)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, West Bengal, Gujarat, Maharashtra, Karnataka, Tamil Nadu, Andaman Is.), Sri Lanka, Nepal, China, Myanmar, Indonesia	SGNP, MG, BWS, KWS, MN, AM	-
131.	<i>Thereira alecto</i> (Linnaeus, 1758)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram), Pakistan, Iraq, Iran, Afghanistan, Uzbekistan, Kyrgyzstan, Greece, Bulgaria, Egypt, Lebanon, Israel, Turkey, Turkmenistan	SGNP, MG	-
132.	<i>Thereira lycetus</i> (Cramer 1775)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, West Bengal, Gujarat, Maharashtra, Karnataka), Sri Lanka, Bhutan, Myanmar, Indonesia	SGNP, MG, BWS, KWS	-
133.	<i>Thereira oldenlandiae</i> (Fabricius, 1775)	India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Madhya Pradesh, Bihar, Maharashtra, Karnataka), Sri Lanka, Nepal, China, Bhutan, Myanmar, Malaysia, Indonesia, Philippines	SGNP, MG, BWS, KWS	-
134.	<i>Thereira sifenensis</i> (Walker, 1856)	India (eastern Himalayas, southern India, Andaman Is.), Sri Lanka, Nepal, China, Bangladesh, Thailand, Vietnam, Malaysia, Indonesia, Taiwan, Japan, Australia	MG	RE
135.	<i>Thereira castanea</i> (Moore, 1872)	India (Maharashtra, Karnataka, Kerala, Tamil Nadu)	SGNP, MG	EN

Table 4: Status and Distribution of Moths Recorded from Northern-western Ghats

No.	Taxa	Distribution	Collection Sites	Range Notes
(xviii)	Bombycidae, Bombycinae			
136.	<i>Ocinara</i> sp.	DD	SGNP	DD
137.	<i>Trilocha</i> c.f. <i>varians</i>	DD	SGNP	DD
138.	<i>Trilocha</i> c.f. <i>friedeli</i>	DD	SGNP	DD
(xix)	Eupterotidae, Eupterotinae			
139.	<i>Eupterote lineosa</i> (Walker, 1855)	India (Sikkim, Nagaland), Bangladesh, Bhutan	SGNP, MG, BWS, AM, PWS	RE
140.	<i>Eupterote murina</i> (Moore, 1877)	Sri Lanka	BWS, PWS NR, MG	RE
141.	<i>Eupterote</i> sp.	DD		DD
	Subfamily Unassigned			
142.	<i>Ganisa similis</i> Moore, 1884	India (Himachal Pradesh, Sikkim, Uttarakhand, Nagaland), Sri Lanka, China, Bangladesh, Malaysia	SGNP, AM	RE
(xx)	Saturniidae, Saturniinae			
143.	<i>Actias selene</i> (Hübner, 1806)	India (Kashmir, Sikkim, Assam, Meghalaya, Manipur, West Bengal, Bihar, Orissa, Himachal Pradesh, Uttarakhand, Gujarat, Maharashtra, Karnataka, Tamil Nadu), Sri Lanka, Nepal, China, Bhutan, Bangladesh, Myanmar, Indonesia, Philippines, Afghanistan, Russia, Malaysia	SGNP, MG, BWS, MN, AM, MB	-
144.	<i>Attacus taprobanis</i> Moore, 1882-1883	India (Maharashtra, Karnataka, Kerala, Tamil Nadu, Gujarat), Sri Lanka	SGNP, MG, BWS, KWS	-
145.	<i>Antheraea paphia</i> (Linnaeus, 1758)	India (Kashmir, Sikkim, Assam, Meghalaya, West Bengal, Bihar, Orissa, Himachal Pradesh, Uttarakhand, Madhya Pradesh, Andhra Pradesh, Gujarat, Maharashtra, Karnataka, Tamil Nadu), Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, Pakistan	SGNP, MG, BWS, KWS, MB	-
147.	<i>Loepa schintmeisteri</i> Brechlin, 2000	India (Himalaya, Maharashtra), Myanmar, Thailand, Malaysia, Indonesia	MG, BWS	-
XIII	LASIOCAMPOIDEA			
(xxi)	Lasiocampidae, Lasiocampinae			
148.	<i>Trabala vishnou</i> (Lefèbvre, 1827)	India (Uttarakhand, West Bengal, Andaman Is.), Sri Lanka, China, Bhutan, Bangladesh, Myanmar, Indonesia, Japan	SGNP, MG, BWS	RE
149.	<i>Arguda flavovittata</i> Moore, 1879	India (Himachal Pradesh, Uttarakhand), Bhutan	SGNP	RE
150.	<i>Lebeda nobilis</i> Walker, 1855	India (Nagaland, West Bengal, east to north-west Himalaya), Nepal, Bangladesh	MG, KWS, BWS	RE
151.	<i>Metanastria aconyta</i> (Cramer, 1777)	India (Karnataka, Kerala, Sikkim), Bangladesh	PWS	RE
152.	<i>Streblote siva</i> (Lefèbvre, 1827)	India (West Bengal, southern India, north-west Himalaya), Myanmar, Iraq, Pakistan	SGNP	RE
XIV	GEOMETROIDEA			
(xxii)	Uraniidae			
	Microniinae			
153.	<i>Micronia aculeata</i> Guenée, 1857	India, Sri Lanka, Myanmar, China, Taiwan	SGNP, MG, BWS, KWS, AM	-
	Epipleminae			
154.	<i>Orudiza protheclaria</i> Walker, 1861	India (Sikkim, Uttarakhand, Meghalaya, Maharashtra, Karnataka, Kerala), Myanmar, Bangladesh, Thailand, Cambodia, Indonesia	SGNP, MG, BWS	-
155.	<i>Monobolodes</i> sp.	DD	SGNP, MG	DD
156.	<i>Phazaca leucocera</i> Hampson, 1891	India (Uttarakhand, southern India), Sri Lanka, Indonesia, Malaysia (Borneo), Papua New Guinea	SGNP, MG, BWS, KWS	RE

Table 4: Status and Distribution of Moths Recorded from Northern-western Ghats

No.	Taxa	Distribution	Collection Sites	Range Notes
157.	<i>Phazaca</i> sp.	DD	BWS	DD
158.	<i>Phazaca</i> c.f. <i>theclata</i>		SGNP	-
	Auzeniinae			
159.	<i>Decetia nummularia</i> (Walker, 1860)	India, Bangladesh.	SGNP	-
160.	<i>Decetia suboscureata</i> Walker, 1862	India (North India, Tamil Nadu, Kerala), Sri Lanka	MG	RE
	(xxii) Geometridae			
	Ennominae, Hypochrosini			
161.	<i>Hypochrosia hyadaria</i> Guenée, 1858	India (Sikkim, Uttarakhand, Khasi Hills, Tamil Nadu), Sri Lanka	KWS	RE
162.	<i>Achrosia incitata</i> (Walker, 1862)	India, Nepal, China	SGNP	-
	Ennominae, Plutodini			
163.	<i>Plutodes transmuralis</i> Walker, 1861	India (Himachal Pradesh, Uttarakhand), Nepal	BWS	RE
164.	<i>Caberini mediaradaria</i> Herrich-Schäffer, 1856	India, Sri Lanka, Nepal, Myanmar, Bangladesh, Australia	SGNP	-
165.	<i>Hypperythra lutea</i> (Stoll, 1787)	India, Sri Lanka, Myanmar, China, Indonesia, New Guinea	SGNP	-
	Ennominae, Abraxini			
166.	<i>Abraxas</i> sp.	DD	MG	DD
167.	<i>Gonodoritis</i> c.f. <i>cielia</i>	DD	SGNP	DD
	Ennominae, Cassymini			
168.	<i>Heterostegane</i> sp.	DD	MG	DD
	Ennominae, Eutoeini			
169.	<i>Eufœa heteroncurata</i> (Guenée, 1857)	India, Australia, New Britain	MG	-
170.	<i>Luxiara</i> sp.	DD	SGNP	DD
	Ennominae, Macartini			
171.	<i>Chiasmia frugaliata</i> (Guenée, 1858)	India (Maharashtra, Chennai, Uttarakhand), Pakistan, Sri Lanka	SGNP, MG	-
172.	<i>Chiasmia inchoata</i> (Walker, 1861)	India (Maharashtra, north India)	SGNP, MG	EN
173.	<i>Chiasmia eleonoræ</i> (Cramer, 1780)	India (North India, Uttarakhand), Malaysia	SGNP, MG, AM	-
174.	<i>Godonella</i> sp.	DD	MG, AM	DD
175.	<i>Chiasmia emersaria</i> (Walker, 1861)	India, Nepal, China, Thailand, Japan	BWS	-
176.	<i>Chiasmia</i> c.f. <i>triangulata</i>	DD	SGNP	DD
	Ennominae, Boarmiini			
177.	<i>Hyposidra taiaca</i> (Walker, 1860)	India (N.E., Himalaya, Uttarakhand, Andaman & Nicobar Is.), China, Australia	SGNP, MG, BWS, AM	RE
	Dasyboarmiinae			
178.	<i>Dasyboarmia</i> c.f. <i>subpilosa</i>	DD	AM	DD
179.	<i>Krananda</i> sp.	DD	KWS, BWS	DD
180.	<i>Alicis</i> sp.	DD	MG	DD
181.	<i>Amblychya hymenaria</i> (Guenée, 1857)	India (Central India, Sikkim, Assam, Meghalaya, Uttarakhand, Chhattisgarh), Nepal, Bangladesh, Malaysia, Indonesia	PWS	DD
	Biston sp.		SGNP, MG	RE
182.	<i>Biston</i> sp.	DD	DD	DD
183.	<i>Cleora injectaria</i> (Walker, 1860)	Japan, Indo-Australian Tropics to Fiji and New Caledonia	SGNP, BWS	DD
184.	<i>Cleora</i> sp. 1	DD	MG	DD
185.	<i>Cleora</i> sp. 2	DD	MG	DD
186.	<i>Cleora</i> sp. 3	DD	MG	DD
187.	<i>Cleora</i> sp. 4	DD	SGNP	DD
188.	<i>Cleora</i> sp. 5	DD	SGNP	DD
189.	<i>Cleora</i> sp. 6	DD	SGNP	DD

Table 4: Status and Distribution of Moths Recorded from Northern-western Ghats

No.	Taxa	Distribution	Collection Sites	Range Notes
190.	<i>Cleora</i> sp. 7	DD	SGNP	DD
191.	<i>Cleora</i> sp. 8	DD	SGNP	DD
192.	<i>Ectropis</i> sp. 1	DD	MG	DD
193.	<i>Ectropis</i> sp. 2	DD	MG	DD
194.	<i>Rutheillerona cessaaria</i> (Walker, 1860)	India (southern India), Sri Lanka	MG	RE
195.	<i>Aplochloa</i> c.f. <i>vivilaca</i>	DD	SGNP	DD
Geometrinae, Dysphanini				
196.	<i>Dysphania percoata</i> (Swinhoe, 1891)	India (Maharashtra, Goa, Karnataka, Tamil Nadu)	SGNP, MN, BWS, MG	EN, RE
Geometrinae, Pseudoterpini				
197.	<i>Pingasa</i> sp.	DD	BWS, AM	DD
198.	<i>Herochroma</i> sp.	DD	KWS	DD
199.	<i>Herochroma</i> c.f. <i>orientalis</i>	DD	KWS	DD
Geometrinae, Geometrini				
200.	<i>Agathia angustilimes</i> Prout, 1926	India (Delhi)	SGNP, MG	EN, RE
201.	<i>Agathia eromena</i> Prout, 1916	India	BWS	EN
202.	<i>Agathia laetata</i> (Fabricius, 1794)	India, Sri Lanka, Nepal, Bhutan, Bangladesh, Malaysia, Taiwan	AM	-
203.	<i>Peligodes raisana</i> Prout, 1912	India, Indonesia, Malaysia (Borneo)	MG	-
204.	<i>Agathia</i> c.f. <i>lycaenaria</i>	DD	BWS	DD
205.	<i>Comstola</i> c.f. <i>chlorargyra</i>	DD	SGNP	DD
Geometrinae, Combibaenini				
206.	<i>Comibaena cassidara</i> (Guenée, 1857)	India, China, Thailand, Singapore, Indonesia, Malaysia (Borneo)	SGNP	-
207.	<i>Maxares</i> sp.	DD	MN	DD
208.	<i>Hermitea tritonaria</i> (Walker, 1863)	India, Sri Lanka, Nepal, China, Korea, Japan, Ryuku Is., Malaysia, Indonesia, Philippines	MG	-
209.	<i>Thalassodes quadrraria</i> Guenée, 1857	India, Africa, China	MG	-
210.	<i>Thalassodes</i> sp.	DD	SGNP	DD
Sterrhinae				
211.	<i>Antingodes cunellinae</i> (Walker, 1863)	India	SGNP	EN
212.	<i>Chrysosarpeda olearia</i> (Guenée, 1856)	India, China	MB	-
213.	<i>Chrysosarpeda</i> sp.	DD	KWS	DD
214.	<i>Problepsis vulgaris</i> Butler, 1889	India (Himachal Pradesh, Uttarakhand, West Bengal, Southern Peninsula), Sri Lanka, Nepal, China	SGNP, BWS, AM	RE
215.	<i>Scopula</i> sp.	DD	KWS, AM	DD
216.	<i>Scopula</i> c.f. <i>emissaria</i>	DD	SGNP	DD
217.	<i>Scopula</i> c.f. <i>pulchellata</i>	DD	BWS	DD
218.	<i>Timandra convexaria</i> Walker, 1861	China, Bangladesh, Indonesia, Japan, Korea	KWS	NR
219.	<i>Traminda mundissima</i> (Walker, 1861)	India (Uttarakhand, southern India)	SGNP	EN, RE
220.	<i>Zygos</i> c.f. <i>obliterata</i>	DD	SGNP	DD
Larentiinae				
221.	<i>Eupithecia</i> sp. 1	DD	SGNP	DD
222.	<i>Eupithecia</i> sp. 2	DD	MG	DD
Desmobaethrinae, Desmobaethrini				
223.	<i>Conolophia nigripuncta</i> (Hampson, 1891)	India (Uttarakhand, Nilgiri Hills), Myanmar, Indonesia, Malaysia (Borneo)	MG, BWS	RE

Table 4: Status and Distribution of Moths Recorded from Northern-western Ghats

No.	Taxa	Distribution	Collection Sites	Range Notes
	Desmobiathrinae, Eumeleini			
224.	<i>Eumelea ludovicata</i> Guenée, 1857	South China, Guam, Papua New Guinea	MG, AM	NR
225.	<i>Oxymacaria</i> sp.	DD	MG	DD
XV	NOCTUOIDEA:			
	(xxiv) Notodontidae			
	Dudusinae			
226.	<i>Ambadra</i> sp.	DD	SGNP, KWS	DD
227.	<i>Hyperaeschrella</i> sp.	DD	MG	DD
228.	<i>Nerita viridescens</i> Walker, 1855	India (Sikkim, Uttarakhand, Nagaland), Sri Lanka, China, Indonesia, New Guinea	SGNP	RE
229.	<i>Dudusa synoplia</i> Swinhoe, 1907	India, China, Myanmar, Indonesia, Malaysia (Borneo), Taiwan	MG	RE
230.	<i>Bireta longivittata</i> Walker, 1856	India (Himachal Pradesh, Sikkim, Nagaland), Myanmar	MG	RE
231.	<i>Vaneeskela pallidifascia</i> Hampson, 1892	India (N.E. Himalaya), China, Vietnam, Malaysia, Indonesia, Philippines, Japan, New Guinea	SGNP, MG	RE
232.	<i>Neocerura liturata</i> (Walker, 1855)	India (Sikkim, Uttarakhand, Assam, Maharashtra, Tamil Nadu), Sri Lanka, China	MG, SGNP	Nil
	Notodontinae			
233.	<i>Micromelalopha</i> sp.	DD	PWS	DD
234.	<i>Neodymonia basalis</i> (Moore, 1879)	India (West Bengal, Sikkim), China	SGNP	RE
235.	<i>Cleopa latifascia</i> Walker 1855	Myanmar, Pakistan	SGNP	NR
	Phalerinae			
236.	<i>Phalera grotei</i> Moore, 1859	India (Sikkim, Nagaland, West Bengal, Himachal Pradesh, Uttarakhand, Maharashtra, Tamil Nadu), China, Vietnam, Indonesia and Malaysia (Borneo), Korea	SGNP, MG	-
237.	<i>Phalera sangana</i> Moore, 1859	India (north-east and north-west Himalaya), Bhutan, China	MG	RE
238.	<i>Quadricarifera viridimaculata</i> Matsumura, 1922	India (N.E. Himalaya), China, Taiwan, Sundaland, Philippines (Mindanao)	MG	RE
239.	<i>Syntypis fasciata</i> (Moore, 1879)	India (Sikkim), China	SGNP, MG, PWS	RE
240.	<i>Syntypis</i> sp.	DD	MG	DD
	Ceirinae			
241.	<i>Gargetta</i> sp.	DD	SGNP	DD
	Subfamily Unassigned			
242.	<i>Eupodna festiacea</i> (Walker, 1856)	India (N.E. Himalaya), Indonesia and Malaysia (Borneo)	MG	RE
(xxv) Erebidae				
	Lymantirinae, Lymantirini			
243.	<i>Lymantria mathura</i> (Moore, 1865)	India (N.W. Himalayas, Uttarakhand, Sikkim), Nepal, China, Korea, Japan	SGNP, MG	RE
244.	<i>Lymantria</i> sp.	DD	SGNP	DD
	Lymantirinae, Orgyini			
245.	<i>Orgyia</i> sp.	DD	SGNP	DD
	Lymantirinae, Aretontithini			
246.	<i>Aretontis</i> sp.	DD	BWS	DD
	Lymantirinae, Nygmmini			
247.	<i>Euproctis</i> sp.	DD	KWS, PWS	DD
248.	<i>Somena</i> sp.	DD	PWS	DD
249.	<i>Nygmia</i> sp.	DD	PWS	DD
250.	<i>Nygmia</i> c.f. <i>madana</i>	DD	BWS	DD

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No.	Taxa	Distribution	Collection Sites	Range Notes
	Lymantinae, tribe unassigned			
251.	<i>Cispa charma</i> Swinhoe, 1899	India (Karnataka)	BWS	EN, RE
	Arctiinae, Lithosini			
252.	<i>Barsine striata</i> (Bremer et Grey, 1852)	India (N.W. Himalaya, Himachal Pradesh), China, Korea, Japan, Russia	BWS	RE
253.	<i>Brunia aritica</i> (Walker, 1854)	India (Sikkim, Uttarakhand, Meghalaya, Nicobar Is), Sri Lanka, Chagos Is., China, Indonesia, Malaysia (Borneo)	SGP, MG, KWS, BWS	RE
254.	<i>Cyana ridleyi</i> Hampson, 1900	India (Northern India, Uttarakhand), Malaysia, Singapore, Indonesia, Malaysia (Borneo)	SGNP, MG	RE
255.	<i>Cyana</i> sp.	DD	SGNP	DD
256.	<i>Dioluga</i> sp.	DD	KWS	DD
257.	<i>Eliena serva</i> (Walker, 1854)	India (Sikkim, West Bengal, Assam, Meghalaya, Nagaland), Nepal, Japan, Europe	SGNP, MG	RE
258.	<i>Lithosa</i> sp.	DD	SGNP	DD
259.	<i>Macrobrotis gigas</i> (Walker, 1854)	India (Sikkim, Uttarakhand, Assam), Nepal, China, Bhutan, Indonesia	SGNP, MG, KWS	RE
260.	<i>Nepita corifera</i> (Walker, 1854)	India (Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu, North India), Sri Lanka	SGNP, MG, KWS, PWS	-
261.	<i>Oeonistis entella</i> (Cramer 1779)	India (southern India), Sri Lanka	SGNP, MG, KWS, BWS	RE
	Arctiinae, Syntomini			
262.	<i>Arnata bicincta</i> Kollar, 1844	India (Himachal Pradesh, Uttarakhand, Sikkim, Khasi Hills), China	SGNP, MG, BWS	RE
263.	<i>Arnata cysses</i> Stoll 1782	India (Himalayas, Uttarakhand, Sikkim), Sri Lanka	SGNP, MG	RE
264.	<i>Arnata minor</i> Warren 1888	India (Punjab)	MG, BWS	EN, RE
265.	<i>Caenressa</i> sp.	DD	BWS	DD
266.	<i>Nannoarctia dentata</i> (Walker, 1855)	India (southern India to eastern India)	BWS	DD
	Arctiinae, Arctiini			
267.	<i>Amerila asreus</i> (Drury, 1779)	India (Sikkim, Uttarakhand, Arunachal Pradesh, West Bengal, Maharashtra, Tamil Nadu), Sri Lanka, China, Myanmar, Malaysia, Indonesia, Philippines, New Guinea	SGNP, MG, BWS	-
268.	<i>Argina argus</i> Kollar, 1844	India, Sri Lanka, Nepal, China, Bangladesh, Myanmar, Indonesia, Philippines, Japan, New Guinea, Australia, Oceania, Ghana, Madagascar, Seychelles	SGNP, MG, BWS, KWS, AM	RE
269.	<i>Creatonotus transiens</i> (Walker, 1855)	India (eastern India, Uttarakhand, Sikkim), Nepal, China, Malaysia, Indonesia, Philippines, Japan	SGNP, MG, BWS, KWS, AM	RE
270.	<i>Lemyra spilosomata</i> (Walker, 1864)	India (southern India)	SGNP, KWS, MG, BWS, AM	EN, RE
271.	<i>Spilosoma montanum</i> Guérin-Méneville, 1843	India (Punjab, Tamil Nadu)	SGNP, MG	EN, RE
272.	<i>Rajendra perrottei</i> (Guérin-Méneville, 1844)	India (Punjab, Himachal Pradesh, Uttarakhand, West Bengal, Bihar, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu)	SGNP, MG, BWS, AM, PWS	EN, RE
273.	<i>Rajendra</i> sp.	DD	BWS, AM	DD
274.	<i>Euchromia polymena</i> (Linnaeus, 1758)	India (Negaland), Maharashtra, Karnataka, Gujarat, Andaman Is), Sri Lanka, China, Myanmar, Malaysia, Indonesia, Philippines, Australia	SGNP, MG, BWS, BWS, AM	EN, RE
275.	<i>Ptercalia ricini</i> (Fabricius, 1775)	India, Sri Lanka	SGNP, PWS	-
	Hermiiniinae			
276.	<i>Adrapsa ereboides</i> (Walker, 1864)	India, Sri Lanka, Myanmar, Singapore, Indonesia, Malaysia (Borneo)	SGNP, MG, BWS, KWS, PWS	-
277.	<i>Hydrilodes</i> c.f. <i>abavalis</i>	DD	SGNP, MG, KWS	DD

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No.	Taxa	Distribution	Collection Sites	Range Notes
Aganainae				
278.	<i>Asola ficus</i> (Fabricius, 1775)	Pakistan, India (Uttarakhand, southern India), Sri Lanka, China, Nepal, Myanmar, Thailand, Malaysia, Japan	MG, BWS	RE
279.	<i>Asola caricae</i> (Fabricius, 1775)	India, Sri Lanka, China, Malaysia, Indonesia, Philippines, Australia	SGNP, MG	-
280.	<i>Asola sariccae</i> (Moore, 1878)	India (southern India)	SGNP	EN, RE
281.	<i>Digama marchali</i> (Guérin, Méneville, 1843)	India (Maharashtra, Gujarat, southern India), Myanmar	SGNP, MG, BWS, PWS	-
Hypeninae				
282.	<i>Dichromia pullata</i> Moore, 1885	Sri Lanka	MG, AM	NR
283.	<i>Niarda</i> sp.	DD	KWS	DD
Scoliopteryginae				
284.	<i>Gonitis mesopona</i> (Walker, 1858)	India, Thailand, Vietnam, Indonesia, Indonesia, Malaysia (Borneo), Japan	PWS	-
285.	<i>Ruscisada albiflora</i> (Walker, 1857-1858)	India, Sri Lanka, Myanmar, Japan, China, Indonesia, Australia, Papua New Guinea, Fiji, Samoa	SGNP	-
286.	<i>Ruscisada combians</i> (Walker, 1859)	India, Sri Lanka, Myanmar, China, Australia, Fiji, Africa	MG	-
287.	<i>Ruscisada leucophaea</i> (Prout, 1928)	China, Japan, Sumatra	KWS	NR
288.	<i>Ruscisada metaxantha</i> (Walker, 1858)	India, Sri Lanka, China, Myanmar, Indonesia, Japan, Australia, Solomon Is., Fiji, Samoa	MG, KWS	-
Calpinae, Calpini				
289.	<i>Calyptra minuticornis</i> (Guenée, 1852)	India, Sri Lanka, China, Indonesia, Japan, Australia	MG, KWS	-
290.	<i>Eudocima salamina</i> Walker, 1857	India, China, Philippines, Japan, New Guinea	MG, SGNP, AM	-
291.	<i>Eudocima phalaonia</i> (Linnaeus, 1763)	India, China, Indonesia, Korea, Japan, New Guinea, Australia, New Zealand	SGNP, MG, BWS, KWS, AM	-
292.	<i>Eudocima homeana</i> (Hübner, 1816)	India, Sri Lanka, China, Myanmar, Malaysia, Indonesia, Singapore, Philippines	SGNP, MG, BWS, KWS, AM	-
293.	<i>Eudocima hypomnestra</i> (Stoll, 1780)	India, Sri Lanka, Myanmar	SGNP, AM	RE
294.	<i>Eudocima materna</i> (Linnaeus, 1767)	India (Uttarakhand, Assam), New Guinea, Australia, Canada, America, French Antilles, Africa	SGNP, MG, KWS	RE
295.	<i>Oraesia c.f. argyrosigna</i>	DD	MG	DD
296.	<i>Oraesia emarginata</i> (Fabricius, 1794)	India, China, Korea, Japan, Australia	MG, AM	-
297.	<i>Plusiodontia coelonota</i> (Kollar, 1844)	India (Uttarakhand, Andaman & Nicobar Is.), Sri Lanka, China, Myanmar, Indonesia, Singapore, Philippines, Japan, New Guinea	KWS, MG	RE
Calpinae, Phylodini				
298.	<i>Phylodēs consobrina</i> Westwood, 1848	India (N.E. India, Andaman Is.), Sri Lanka, Myanmar, Thailand	AM	RE
Calpinae, Ophiderini				
299.	<i>Acheasa janata</i> (Linnaeus, 1758)	India, China, Myanmar, Indonesia, Singapore, Philippines, Japan, New Guinea, New Zealand, Australia	SGNP, MG, BWS, KWS, AM	-
300.	<i>Acheasa sena</i> (Fabricius, 1775)	Indo-Australian Tropics, China, Philippines	SGNP, MG, BWS, KWS, AM	-
301.	<i>Bastilia crameri</i> (Moore, 1885)	India, Sri Lanka, Pakistan, China, Myanmar, Thailand, Indonesia and Malaysia (Borneo)	MG, SGNP, AM, PWS	-
302.	<i>Bastilia joviana</i> (Stoll, 1782)	India, Sri Lanka, Pakistan, Bhutan, Nepal, Bangladesh, Myanmar, Thailand, Malaysia, Indonesia, China, New Guinea, Australia	MG, AM	-

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No.	Taxa	Distribution	Collection Sites	Range Notes
303.	<i>Buzara onelia</i> (Guenée, 1852)	India, China, Myanmar, Malaysia, Indonesia, Singapore, Philippines	KWS, AM	-
304.	<i>Paralifeia stuposa</i> (Fabricius, 1794)	India, Sri Lanka, China, Indonesia, Philippines, Japan, Korea	SGNP, MG, AM	-
305.	<i>Paralifeia</i> sp.	DD	SGNP	DD
306.	<i>Pindara libbata</i> (Fabricius, 1776)	India, Sri Lanka, Myanmar, China, Japan, Singapore, Philippines, Indonesia, Malaysia (Borneo)	MG	-
307.	<i>Ophiura tirheca</i> (Cramer, 1777)	India, China, Japan, Philippines, Australia, S. E. Europe, Africa	SGNP, MG, BWS, KWS	-
308.	<i>Ophiura olivis</i> (Swinhoe, 1893)	India, China, Korea, Japan	SGNP, MG	-
309.	<i>Ophiura irphaenoides</i> (Walker, 1858)	India, Sri Lanka, Pakistan, Bhutan, Nepal, Bangladesh, China, Taiwan, Thailand, Myanmar, Sumatra, Indonesia, Malaysia (Borneo)	SGNP	-
Boletobinae				
310.	<i>Diomea lignicolora</i> (Walker, 1858)	Sri Lanka, Thailand, China, Indonesia.	AM	NR
311.	<i>Diomea</i> sp.	DD	MG, AM	DD
Aventininae				
312.	<i>Laspeyria</i> sp.	DD	KWS	DD
313.	<i>Cerynea c.t. contentaria</i>	DD	KWS	DD
Anobinae				
314.	<i>Pleocoptera reflexa</i> (Guenée, 1852)	India, China, Singapore, Philippines	MG, SGNP	DD
315.	<i>Tophrops c.f. divulsa</i>	DD	KWS	DD
316.	<i>Crithote hortigipes</i> Walker, 1864	India, China, Indonesia and Malaysia (Borneo)	SGNP, KWS	-
317.	<i>Anoba pectinata</i> (Hampson, 1896)	India (N.E. Himalaya), Sri Lanka, China, Indonesia and Malaysia (Borneo, Sumatra, Java)	AM	RE
Erebinae, Erebinini				
318.	<i>Erebus episperts</i> (Hübner, 1827)	India (Andaman & Nicobar is.), Sri Lanka, China, Indonesia, Taiwan, Japan	MG, BWS, AM	RE
319.	<i>Erebus caprimulgus</i> (Fabricius, 1781)	India, Sri Lanka, Myanmar	MG, AM	-
320.	<i>Erebus hieroglyphica</i> (Drury, 1773)	India (Uttarakhand), Pakistan, Sri Lanka, Bangladesh, Japan, China (including Hong Kong), Taiwan, Cambodia, Laos, Myanmar, Thailand, Vietnam, Indonesia, Philippines, Malaysia, Singapore, Korea	MG, AM	RE
321.	<i>Erebus macrops</i> (Linnaeus, 1770)	India, Sri Lanka, Nepal, Myanmar, China	SGNP, MN, MG, PWS, AM, BWS, MG	-
322.	<i>Erebus</i> sp.	DD	MG	DD
323.	<i>Chilkaea falcata</i> Swinhoe, 1885	India, Sri Lanka, Nepal, Myanmar, Bhutan, Bangladesh, Thailand, China, Indonesia, Malaysia (Borneo), Philippines	MG	-
324.	<i>Artena dolata</i> (Fabricius, 1794)	India, Sri Lanka, China, Indonesia, Malaysia (Borneo), Singapore, Japan	SGNP, MG, BWS, AM	-
325.	<i>Artena submitra</i> Walker, 1858	India (Tamil Nadu), Bangladesh, Myanmar, Thailand, Vietnam	SGNP, MG	RE
326.	<i>Hypocata deflorata</i> Fabricius, 1794)	India, Sri Lanka, Thailand, Nepal, Indonesia, China, Taiwan, Japan, Korea, New Zealand, Australia, South Africa, Madagascar	SGNP, MG	-
327.	<i>Hypocata subsetura</i> (Guenée, 1852)	India (N.W. Himalayas, Uttarakhand, Karnataka, Tamil Nadu), China, E & S Africa	AM	RE
328.	<i>Chaliope mygdon</i> (Cramer, 1777)	India (Sikkim, Nicobar is.), Sri Lanka, China, Indonesia and Malaysia (Borneo), Singapore, Japan	AM, MG	RE
329.	<i>Grammodes geometrica</i> (Fabricius, 1775)	India, Sri Lanka, China, Myanmar, Indonesia, Singapore, Taiwan, New Guinea, Australia, Europe, Africa	SGNP, MG, KWS	RE
330.	<i>Grammodes stolidia</i> (Fabricius, 1775)	India, Europe, Africa, Yemen	SGNP, MG, BWS, KWS, AM	-
			MG, KWS	-

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No.	Taxa	Distribution	Collection Sites	Range Notes
331.	<i>Trigonodes hyppasia</i> (Cramer, 1779)	India, Sri Lanka, China, Japan, Australia, Africa.	SGNP, MG, KWS	–
332.	<i>Mocis irugalis</i> (Fabricius, 1775)	India (Sikkim), Sri Lanka, Myanmar, China, Japan, Malaysia, Indonesia, Singapore, New Guinea, Australia, Africa	MG	RE
333.	<i>Mocis undata</i> (Fabricius, 1775)	India (Uttarakhand, Nicobar Is.), Sri Lanka, China, Myanmar, Indonesia, Singapore, Korea, Philippines, Japan, Australia, Africa, Madagascar	MG, KWS, AM	RE
334.	<i>Thyas coronata</i> (Fabricius, 1775)	India (Sikkim, Uttarakhand), Sri Lanka, China, Bangladesh, Myanmar, Thailand, Indonesia, Philippines, Christmas Is., Australia, New Caledonia	SGNP, MG, BWS	RE
335.	<i>Thyas honesta</i> Hübner, 1806	India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, Indonesia, Malaysia (Borneo), Philippines	MG, KWS	–
336.	<i>Serodes inara</i> (Cramer, 1779)	India (Tamil Nadu, Kerala, Andhra Pradesh).	SGNP, MG	EN, RE
337.	<i>Serodes campana</i> Guenée, 1852	India, Sri Lanka, China, Bangladesh, Myanmar, Indonesia, Singapore, New Guinea, Australia.	SGNP, MG, AM	–
338.	<i>Fema costimacula</i> (Guenée, 1852)	India (Sikkim), China, Singapore, Indonesia, Australia	SGNP	RE
Erebinae, Catocalini				
339.	<i>Catocala</i> sp.	DD	SGNP	DD
340.	<i>Avatha chinensis</i> (Warron, 1913).	China, Taiwan, Japan	MG	NR
341.	<i>Attatha regalis</i> (Moore, 1872)	India (northern India), Vietnam, Thailand, Nepal, China, Philippines	SGNP, MG	RE
342.	<i>Sympis rufibasis</i> Guenée, 1852	India, Sri Lanka, Myanmar, Nepal, Thailand, Cambodia, Vietnam, China, Taiwan, Philippines, Indonesia	AM	–
343.	<i>Sphingomorpha chlorea</i> (Cramer 1777)	India, Sri Lanka, Nepal, Thailand, China, United Arab Emirates, Oman, Saudi Arabia, Yemen, Egypt, Africa, Uganda, Sudan	SGNP	–
Erebinae, Hypopyrini				
344.	<i>Spirama retorta</i> (Clerck, 1764)	India, Sri Lanka, Nepal, China, Myanmar, Thailand, Malaysia, Indonesia, Philippines, Korea, Japan	SGNP, MG, AM, MN	–
345.	<i>Hypopyra ossigera</i> Guenée, 1852	India (Assam, Sikkim), China, Indonesia and Malaysia (Borneo)	SGNP, MG, BWS, KWS	RE
346.	<i>Hypopyra vesperillo</i> (Fabricius, 1787)	India, Sri Lanka, China, Myanmar, Indonesia, Japan	SGNP, MG, AM, MN	–
Erebinae, Tinoitini				
347.	<i>Calesia dasyptera</i> (Kollar, 1844)	India, Sri Lanka, Nepal, Bangladesh, Thailand, Laos, Vietnam, China, Myanmar	SGNP, MG	–
348.	<i>Calesia rhodoteia</i> Hampson, 1926	Thailand, Myanmar	MG	NR
349.	<i>Calesia stillifera</i> Felder, 1874	Sri Lanka, India, Thailand, Cambodia, Vietnam, China, Philippines	KWS	–
Erebinae, Hulodini				
350.	<i>Ericeia inangulata</i> (Guenée, 1852)	India (Himachal Pradesh, Uttarakhand), Sri Lanka, China, Bangladesh, Myanmar, Singapore, Japan, New Guinea	SGNP, MG	RE
351.	<i>Ericeia</i> c.f. <i>inangulata</i>	DD	MG	DD
352.	<i>Ericeia</i> c.f. <i>pertendens</i>	DD	MG	DD
353.	<i>Hulodes caranea</i> (Cramer, 1780)	India (Assam), Sri Lanka, China, Myanmar, Thailand, Indonesia, Singapore, Philippines, New Guinea	SGNP, MG, BWS, AM	RE
Erebinae, Pericymini				
354.	<i>Pericyma umbrina</i> (Guenée, 1852)	India	MG	EN
Erebinae, Ercheini				
355.	<i>Ercheia cyllaria</i> (Cramer, 1779)	India (Uttarakhand, Nicobar Is.), Sri Lanka, China, Myanmar, Vietnam, Malaysia, Indonesia, Singapore, Japan, Ethiopia	MG, AM	RE
356.	<i>Ercheia diversipennis</i> Walker, 1857	India, Sri Lanka, Myanmar, Indonesia, Malaysia (Borneo)	MG	–
357.	<i>Ercheia</i> sp.	DD	KWS, AM	DD

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No.	Taxa	Distribution	Collection Sites	Range Notes
358.	<i>Hypospila bolinoides</i> Guenée, 1852	India (Central India, Andaman & Nicobar Is.), Sri Lanka, Nepal, Thailand, Vietnam, Cambodia, China, Japan, Korea, Indonesia and Malaysia (Borneo, Java), New Guinea, Australia	SGNP, KWS	RE
Subfamily Unassigned				
359.	<i>Dieris acanthusalis</i> Walker, 1858	India (Tamil Nadu), Sri Lanka, Myanmar	MG	RE
360.	<i>Egnasia ephyrodalis</i> Walker, 1858	India (North India), Bangladesh, Sri Lanka.	SGNP, MG	-
361.	<i>Fodina cortigva</i> Willeman, 1914	India, Sri Lanka, China, Japan, Philippines, Indonesia, Africa	PWS	-
362.	<i>Harmodes auranticaes</i> Guenée, 1852	India (western India, Assam, Sikkim, Andaman Is), Myanmar	SGNP, MG, BWS, AM	-
363.	<i>Harmodes propitia</i> (Guenin-Meneville, 1831)	India (Uttarakhand), Bangladesh, Nepal, Myanmar, Thailand, Laos, China, Indonesia, Malaysia (Borneo), Philippines, Australia, Palau, Papua New Guinea	SGNP, MG, BWS, AM	RE
364.	<i>Ischyia manila</i> (Cramer, 1776)	India (Himalayas, Uttarakhand), Sri Lanka, China, Myanmar, Indonesia, Philippines, Australia	SGNP	RE
365.	<i>Anisoneura aluco</i> (Fabricius, 1775)	India (northern India, Uttarakhand), China, Myanmar, Indonesia, Malaysia (Borneo), Singapore, Australia	MG, KWS	RE
366.	<i>Arsacia rectalis</i> (Walker, 1863)	India (Punjab, Maharashtra, Tamil Nadu), Sri Lanka, Nepal, China, Malaysia, Indonesia, Malaysia (Borneo), New Guinea, Australia	SGNP	-
367.	<i>Bocula xanthostola</i> Hampson, 1926	Sri Lanka, Indonesia, Malaysia (Borneo)	KWS	NR
368.	<i>Chrysopera combitarsa</i> (Walker, 1858)	India, Sri Lanka, Nepal, China, Thailand, Malaysia, Indonesia, Australia	SGNP, MG, KWS	-
369.	<i>Epispars liturata</i> (Fabricius, 1787)	India (Punjab, Kerala, Uttarakhand), Sri Lanka, Myanmar, China, Thailand	SGNP, MG, BWS	RE
370.	<i>Psimada quadripennis</i> Walker, 1858	India (Uttarakhand, Andaman & Nicobar Is.), Sri Lanka, China, Myanmar, Indonesia, Singapore	MG	RE
(xxvi) Eutelidae				
Euteliinae				
371.	<i>Euelia favillatrichoides</i> Poole, 1989	India, Sri Lanka, China	KWS	-
372.	<i>Penciliana jocosatrix</i> Guenée, 1852	India (Uttarakhand), Indo-Australian Tropics, China	KWS	RE
Stictopterinae				
373.	<i>Lophoptera squamigera</i> Guenée, 1852	India (Uttarakhand), Pakistan, Sri Lanka, Bangladesh, Japan, China (including Hong Kong), Taiwan, Cambodia, Laos, Myanmar, Thailand, Vietnam, Indonesia, Philippines, Malaysia, Singapore, Korea	KWS, AM	RE
374.	<i>Lophoptera squamillinea</i> Holloway, 1983	India (N.E. Himalaya), Indonesia and Malaysia (Borneo)	MG, KWS	RE
(xxvii) Nolidae				
Noliniinae				
375.	<i>Selepa cellis</i> Moore, [1860] 1858	India (Nagaland), Sri Lanka, China, Malaysia, Indonesia, Philippines, Japan, Australia	MG, SGNP, KWS	RE
Chloephorinae, Chloephorini				
376.	<i>Carea argulata</i> (Fabricius, 1793)	India, Sri Lanka, China, Indonesia	MG, AM	-
377.	<i>Gaoba polyspilalis</i> Walker, 1866	India (Sikkim, Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu)	SGNP	EN
Chloephorinae, Careini				
378.	<i>Xenochroa</i> sp.	DD	SGNP	DD
Westermanniinae				
379.	<i>Westermanniia superba</i> Hübner, 1823	India (western and southern India), Sri Lanka, Indonesia, Singapore	SGNP, MG, BWS, KWS, AM	-

Table 4: Status and Distribution of Moths Recorded from Northern-western Ghats

No.	Taxa	Distribution	Collection Sites	Range Notes
Risobinae				
380.	<i>Risobia repugnans</i> (Walker, 1856)	India (North: India, Tamil Nadu), Sri Lanka	MG, AM	RE
381.	<i>Risoba</i> c.f. <i>liferata</i>	DD	SGNP	DD
382.	<i>Risoba</i> sp.	DD	MG	-
Collomeninae				
383.	<i>Gadirtha</i> sp.	DD	BWS	-
(xxviii) Noctuidae, Plusiinae				
384.	<i>Chrysodeixis acuta</i> (Fabricius, 1775)	India, China, Indonesia, Japan, Australia, Africa.	MG, KWS, AM	-
385.	<i>Chrysodeixis erisomata</i> (Doubletsky, 1843)	India, Malaysia, Indonesia, China, Japan, Australia, New Zealand, New Guinea and neighbouring islands in the Pacific Ocean, North and South America; Yemen, Uganda	AM	-
386.	<i>Ctenoplistia albostriata</i> (Bremer & Grey, 1853)	China, Indonesia, Korea, Japan, Australia, Fiji, Indo-Australian tropics to New Zealand and Rapa Is.	KWS	-
387.	<i>Thysanoplistia orchafoea</i> (Fabricius, 1775)	Southern Europe and Africa to South-east Asia, Australia and New Zealand	MG, KWS, AM	-
Eustrotiinae				
388.	<i>Meliactha</i> sp.	DD	KWS, PWS	DD
389.	<i>Eustrotia marginata</i> (Walker, 1866)	India, China, Myanmar, Indonesia	PWS	DD
390.	<i>Ozarba punctigera</i> Walker, 1865	India, Nepal, Pakistan, China, Myanmar, Korea, Japan, Australia, Central and South Africa	KWS	-
Bagisatrinae				
391.	<i>Picrostix gratellis</i> (Feisthamel, 1837)	India, China, South Europe, Africa, Mauritius, Aden	SGNP, MG	-
392.	<i>Xanthodes transversa</i> Guenée, 1852	India (Andaman & Nicobar Is.), Myanmar, China, Japan, Ryukyu Is., Singapore, Indonesia, Australia, Vanuatu	SGNP	-
393.	<i>Chasmodon candida</i> (Walker, 1865)	Indo-Australian tropics east to Fiji	MG, KWS	-
394.	<i>Chasmodon fasciculosa</i> Walker, 1856	Sri Lanka, China, Philippines	SGNP	NR
395.	<i>Spragigeria rejecta</i> (Fabricius, 1775)	India, Sri Lanka, China, Myanmar, Philippines	MG	-
Acontilinae, Acontili				
396.	<i>Acontia</i> sp.	DD	SGNP	DD
Acontilinae, Aedlini				
397.	<i>Aedia leucomeltes</i> (Linnaeus, 1758)	Europe and Indo-Pacific regions.	SGNP, MG, KWS, AM	-
398.	<i>Aedia</i> sp.	DD	AM	DD
Panteliinae				
399.	<i>Trisula variegata</i> Moore, 1858	India (northern India, Tamil Nadu)	KWS	DD
400.	<i>Belciana hermoti</i> Felder 1874	India (Tamil Nadu), Sri Lanka, Indonesia and Malaysia (Borneo)	MG	EN, RE
401.	<i>Donda eurychlora</i> (Walker, 1856)	India, Indonesia, Malaysia (Borneo)	MG	RE
Agastininae				
402.	<i>Aegocera bimaculata</i> Walker, 1854	India (Central India, Sikkim), Sri Lanka	SGNP, MG	RE
403.	<i>Episteme adalatrix</i> (Kollar, 1844)	India (Jammu & Kashmir, Himachal Pradesh, Punjab, Maharashtra, Karnataka, Kerala, Malabar, Tamil Nadu, Assam) Nepal, China, Myanmar	MG, KWS	-
Heliothinae				
404.	<i>Helicoverpa assulia</i> (Guenée, 1852)	Old World (including Pacific) tropics	SGNP, KWS, AM	-
Candichinae				
405.	<i>Candicia conducticia</i> Walker, 1857	Africa (Congo, South Africa)	KWS, AM	NR

Table 4: Status and Distribution of Moths Recorded from Northern-western Ghats

No.	Taxa	Distribution	Collection Sites	Range Notes
406.	<i>Condica illecta</i> (Walker, 1865)	India, China, Japan, Australia, tropical Pacific	KWS, AM	-
	Eriopinae			
407.	<i>Callopietria mallardi</i> (Guenée, 1862)	India, Sri Lanka, Russia, China, Philippines Japan, Indo-Australia, Pacific tropics, Africa	KWS	-
408.	<i>Callopietria callopietroides</i> (Moore, 1881)	India (N.E. Himalaya), Myanmar, Indonesia, Malaysia (Borneo), Philippines	SGNP, AM	RE
	Noctuinae, Caradrinini			
409.	<i>Altheis deficta</i> (Moore, 1881)	India, Nepal, China	SGNP, MG	-
410.	<i>Altheis</i> sp.	DD	SGNP	DD
411.	<i>Calliyna monoleuca</i> Walker, 1858	India, Sri Lanka, China, Myanmar, Indonesia, New Guinea	SGNP	-
	Noctuinae, Glottulini			
412.	<i>Polytela gloriosa</i> Fabricius, 1781	India	KWS	EN
	Noctuinae, Prodeniini			
413.	<i>Spodoptera litura</i> (Fabricius, 1775)	India (eastern India), China, Indo-Australian Pacific Tropics and Sub-tropics	SGNP, MG, KWS, AM	RE
414.	<i>Spodoptera mauritia</i> (Boisduval, 1833)	China, Japan, Indo-Australian and Pacific Tropics	PWS	-
	Noctuinae, Dypierigini			
415.	<i>Trachea</i> c.f. <i>auriplena</i>	DD	KWS	DD
	Noctuinae			
416.	<i>Noctua</i> c.f. <i>orbora</i>	DD	SGNP	DD
417.	<i>Xestia semihirbida</i> (Walker, 1857)	India (North India), Taiwan	SGNP	RE
418.	<i>Axytis</i> sp.	DD	BWS	DD

Abbreviations used in the text and table

AM = Amboli; BWS = Bhimashankar Wildlife Sanctuary; DD = data deficient; EN = Endemic to India; KWS = Koyna Wildlife Sanctuary; MB = Mahabaleshwar; MG = Malshej Ghat; MN = Matheran; NR = New record to India; PWS = Phansad Wildlife Sanctuary; RE = Range extension; SGNP = Sanjay Gandhi National Park, -: Nothing to mention

DISCUSSION

After the Victorian era (Hampson 1892-1896; Dudgeon *et al.* 1897; Bell and Scott 1937), this study has now contributed to the work carried out in 1962 by Shull and Nadkerny, who recorded 180 species over four months in Dangs, Gujarat; Saha and Raychaudhuri (1998) recorded 31 species in a year long study in Jalpaiguri, West Bengal; Rose (2002) recorded 47 species in seven years from Cherrapunji, Meghalaya; Chandra (2007) recorded 142 species between 2001 and 2004 in Madhya Pradesh and Chhattisgarh, and most recently Smetacek (2008) published a list of 887 species from three locations in Uttarakhand compiled over 30 years. This indicates that moth studies have been progressing at a slow pace in our country, and lack of literature and expertise are the prime reasons. The current study, with a checklist of 419 species from Maharashtra, is the first extensive study on moths. More surveys will certainly result in adding to the numbers of species already known.

The moth fauna of Malshej Ghat, Amboli and Koyna wildlife sanctuaries have shown high endemism and many new records for India. Amboli and Koyna wildlife sanctuaries need more detailed sampling as these areas have been largely unexplored for moth studies. Extensive sampling at Sanjay Gandhi National Park resulted in a number of range

extensions for northern Western Ghats, it is therefore likely that intensified sampling effort may result in additional records and range extensions from the other sites.

As our objective was to prepare an inventory of moth species in the study area, the numbers arriving at the light trap were not recorded, and hence, no quantitative comparisons between study sites were conducted. Future studies can now include ecological studies on these species, life histories, habitat preferences, moth assemblage composition, especially of endemic species, to provide information relevant to habitat restoration and species conservation programmes.

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